

REMARKS

In the non-final Office Action, the Examiner objects to claim 1 due to minor informalities; rejects claims 17-21 under 35 U.S.C. § 102(a) as anticipated by SYVANNE et al. (European Patent Application Publication No. 1,317,112); rejects claims 1-11 and 22-25 under 35 U.S.C. § 103(a) as unpatentable over SYVANNE et al. in view of KAVANAGH (U.S. Patent Application Publication No. 2003/0081607); and rejects claims 26 and 27 under 35 U.S.C. § 103(a) as unpatentable over SYVANNE et al. in view of KAVANAGH and GOPAL et al. ("User Plane Firewall for 3G Mobile Network"; Vehicular Technology Conference; IEEE 58th; Vol. 3, October 6, 2003). Applicants respectfully traverse these rejections.¹

By way of the present amendment, Applicants cancel claims 8, 12-21, and 28-31 without prejudice or disclaimer and amend claims 1, 9, and 22 to improve form. No new matter has been added by way of the present amendment. Claims 1-7, 9-11, and 22-27 are pending.

Claims 1 is objected to due to a minor informality. Claim 1 has been amended to correct the informality. As such, withdrawal of the objection to claim 1 is respectfully requested.

Claims 17-21 stand rejected under 35 U.S.C. § 102(a) as allegedly unpatentable over SYVANNE et al. Claims 17-21 are canceled, thereby rendering this rejection moot.

Pending claims 1-7, 9-11, and 22-25 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over SYVANNE et al. in view of KAVANAGH. Applicants respectfully traverse this rejection.

Amended claim 1 recites a method of screening incoming packets that includes detecting a request to establish a connection from a first network to a packet data network; detecting

¹ As Applicants' remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicants' silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections (e.g., whether a reference constitutes prior art, motivation to combine reference, assertions as to dependent claims, etc.) is not a concession by Applicants that such assertions are accurate or such requirements have been met, and Applicants reserve the right to analyze and dispute such assertions/requirements in the future.

establishment of a tunnel, wherein the tunnel has a support node at each end of the tunnel, one of the support nodes being a gateway to the packet data network, wherein the tunnel is used to convey user traffic and the user traffic through the tunnel can have one or more associated firewall sessions on a firewall outside the tunnel; inspecting packets in the tunnel to detect information associated with the firewall sessions; detecting a tear down of the tunnel in response to inspecting the packets; and sending a request to the firewall to clear the one or more firewall sessions in response to detecting the tear down of the tunnel. SYVANNE et al. and KAVANAGH, whether taken alone or in any reasonable combination, do not disclose or suggest this combination of features.

For example, SYVANNE et al. and KAVANAGH do not disclose or suggest detecting a tear down of a tunnel in response to inspecting packets in the tunnel to detect information associated with firewall sessions. A similar feature was previously presented in claim 8. The Examiner admits that SYVANNE et al. does not disclose this feature and relies on paragraphs 0010 and 0013 of KAVANAGH as allegedly disclosing this feature (Office Action, pp. 6-7). Applicants respectfully disagree with the Examiner's interpretation of KAVANAGH.

At paragraph 0010, KAVANAGH discloses:

FIG. 3 is a signaling diagram illustrating the GTP control messages utilized to delete a PDP Context and tear down a GTP Tunnel. The GTP Tunnel can be torn down by initiating a Detach Request 35, by either the operator or the MS 11. A mobile-originated detach request is sent to the SGSN 15 which, in turn, sends a Delete PDP Context Request message 36 to the GGSN 22. The GGSN deletes the PDP Context for this MS and responds with a Delete PDP Context Response message 37 to the SGSN. The SGSN sends an International Mobile Station Identifier (IMSI) Detach Indication 38 and GPRS Detach Indication 39 to the GGSN. The SGSN then deletes the PDP Context, and sends a Detach Accept message 40 to the MS. As a result, the GTP tunnel is deleted.

This section of KAVANAGH discloses the GTP control messages used to tear down a GTP Tunnel. This section of KAVANAGH does not disclose or suggest inspecting packets to detect information associated with firewalls. In fact, KAVANAGH merely discloses automatically

tearing down the tunnel when transmission between two nodes is finished in a known GPRS network (paragraph 0007). Therefore, this section of KAVANAGH cannot disclose or suggest detecting a tear down of a tunnel in response to inspecting packets in the tunnel to detect information associated with firewall sessions, as recited in claim 1.

At paragraph 0013, KAVANAGH discloses:

In one aspect, the present invention is directed to a method of filtering data packets in General Packet Radio Service (GPRS) Tunneling Protocol (GTP) signaling messages between service nodes in a GPRS network. The method includes the steps of analyzing at least one GTP signaling message against a plurality of filtering criteria, and responsive to the analyzing step, selectively dropping data packets from the GTP signaling message or allowing the packets to pass. The analyzing step may include analyzing messages selected from a group consisting of GTP Path Management messages, GTP Tunnel Management messages, GTP Mobility Management messages, and GTP Location Management messages. The analysis may include the steps of verifying that the data packets in the GTP signaling message contain correct source, destination, and mask addresses; verifying that the data packets in the GTP signaling message contain User Datagram Protocol/Transmission Control Protocol (UDP/TCP) port numbers that are consistent with the GTP version number; and inspecting the data packets at the GTP level, layer-5. Based on information in the GTP header and accompanying Information Elements (IEs), selected GTP packets are dropped.

This section of KAVANAGH discloses analyzing at least one GTP signaling message against a plurality of filtering criteria, and responsive to the analyzing step, selectively dropping data packets from the GTP signaling message or allowing the packets to pass. This section of KAVANAGH discloses inspecting packets, but does not disclose or suggest inspecting packets to detect information associated with firewalls. Therefore, this section of KAVANAGH cannot disclose or suggest detecting a tear down of a tunnel in response to inspecting packets in the tunnel to detect information associated with firewall sessions, as recited in claim 1.

For at least the foregoing reasons, Applicants submit that claim 1 is patentable over SYVANNE et al. and KAVANAGH, whether taken alone or in any reasonable combination.

Claims 2-7 and 9-11 depend from claim 1. Therefore, these claims are patentable over SYVANNE et al. and KAVANAGH, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 1.

Amended independent claim 22 recites a system for screening incoming packets, comprising: a GTP firewall including a GTP communication module; and a Gi firewall that includes: a Gi communication module that is operable to receive an instruction from the GTP communication module to tear down a firewall session, a firewall session list, and a tear down engine that removes inactive firewall sessions from the firewall session list when the tear down engine receives the instruction from the GTP communication module. SYVANNE et al. and KAVANAGH, whether taken alone or in any reasonable combination, do not disclose or suggest this combination of features.

For example, SYVANNE et al. and KAVANAGH do not disclose or suggest a Gi communication module that is operable to receive an instruction from the GTP communication module to tear down a firewall session, a firewall session list, and a tear down engine that removes inactive firewall sessions from the firewall session list when the tear down engine receives the instruction from the GTP communication module. The Examiner admits that SYVANNE et al. does not disclose this feature and relies on paragraph 0010 of KAVANAGH as allegedly disclosing this feature (Office Action, pg. 10). Applicants respectfully disagree with the Examiner's interpretation of KAVANAGH.

Paragraph 0010 of KAVANAGH has been reproduced above. This section of KAVANAGH discloses the GTP control messages used to tear down a GTP Tunnel. This section of KAVANAGH does not mention a Gi communication module that is operable to receive an instruction from the GTP communication module to tear down a firewall session or a firewall session list. Therefore, this section of KAVANAGH cannot disclose or suggest a Gi communication module that is operable to receive an instruction from the GTP communication module to tear down a firewall session, a firewall session list, and a tear down engine that removes inactive firewall sessions from the firewall session list when the tear down engine

receives the instruction from the GTP communication module, as recited in claim 22. In fact, as noted above, KAVANAGH merely discloses that, in existing GPRS networks, the GTP-Control Plane tears down the tunnel when transmission is finished (paragraph 0007).

For at least the foregoing reason, Applicants submit that claim 22 is patentable over SYVANNE et al. and KAVANAGH, whether taken alone or in any reasonable combination.

Claims 23-25 depend from claim 22. Therefore, these claims are patentable over SYVANNE et al. and KAVANAGH, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 22.

Claims 26 and 27 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over SYLVANNE et al. in view of KAVANAGH and GOPAL et al. Applicants respectfully traverse this rejection.

Claims 26 and 27 depend from claim 22. Without acquiescing in the rejection of claims 26 and 27, Applicants submit that the disclosure of GOPAL et al. does not remedy the deficiencies in the disclosures of SYLVANNE et al. and KAVANAGH set forth above with respect to claim 22. Therefore, claims 26 and 27 are patentable over SYVANNE et al. and KAVANAGH, whether taken alone or in any reasonable combination, for at least the reasons given above with respect to claim 22.

In view of the foregoing amendments and remarks, Applicant respectfully requests the Examiner's reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

HARRITY SNYDER, L.L.P.

By: /Meagan S. Walling, Reg. No. 60,112/
Meagan S. Walling
Reg. No. 60,112

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11350 Random Hills Road
Suite 600
Fairfax, VA 22030
Telephone: (571) 432-0800
Facsimile: (571) 432-0808